Amendments to the Claims:

This listing of the claims replaces all previous versions and listings of claims in the application.

Listing of Claims:

1. (currently amended) A high performance image projection apparatus, comprising:

a light source having an effective source size and emitting a principal light ray and an associated bundle of polychromatic light rays;

a liquid crystal display (LCD) panel adapted to form a light pattern in response to ~~the~~ incident polychromatic light rays emitted from the light source and applied signals carrying light pattern information, the LCD panel having a major surface; and

an optical lens device positioned to receive and having optical light directing properties to steer the principal light ray and associated bundle of polychromatic light rays for incidence on the LCD panel at substantially the same optimal ray angle that contributes to formation of the light pattern at a contrast ratio of at least 1000:1, the optimal ray angle being in a range from about zero degrees to about ten degrees from normal to the major surface.

2. (previously presented) The apparatus of claim 1 in which the effective source size ranges from about one millimeter to about seven millimeters.

3. (previously presented) The apparatus of claim 1 in which the LCD panel has a diagonal dimension that is greater than about 50 millimeters.

4. (previously presented) The apparatus of claim 1 in which the LCD panel has a diagonal dimension that is about 380 millimeters.

5. (previously presented) The apparatus of claim 1 further including a projection lens for projecting the light pattern on a screen at a magnification ratio of less than about 10X.

6. (original) The apparatus of claim 5 in which the magnification ratio ranges from about 4X to about 10X.

7. (previously presented) The apparatus of claim 5 in which the projection lens includes five or fewer optical lens elements.

8. (original) The apparatus of claim 1 in which the LCD panel includes amorphous silicon thin film transistors.

9. (previously presented) The apparatus of claim 1 in which the LCD panel has an operational life of at least 50,000 hours before the light pattern displays a substantial color degradation.

10. (original) The apparatus of claim 1 in which the LCD panel has an SXGA or greater resolution.

11. (original) The apparatus of claim 1 further including a projection screen and in which the image projection apparatus is a rear screen projector.

12. (previously presented) The apparatus of claim 1 in which the optical lens device includes an input Fresnel lens.

13. (canceled)

14. (original) The apparatus of claim 12 in which the input Fresnel lens has an optical center and the principal ray enters the input Fresnel lens at a position offset from the optical center.

15. (previously presented) The apparatus of claim 12 further including an output Fresnel lens that receives the principal ray exiting the LCD panel and refracts the principal ray such that it exits the output Fresnel lens substantially perpendicular to a major surface of the output Fresnel lens.

16. (previously presented) The apparatus of claim 1 in which the bundle of polychromatic light rays propagates through the LCD panel at a divergence angle that is less than about ±6 degrees relative to the angle of the principal light ray.

Claims 17-30 (canceled).

31. (previously presented) The apparatus of claim 1 in which the LCD panel has a diagonal dimension, the light source includes at least one arc lamp, and the effective source size includes an arc gap dimension so that the arc gap dimension is two percent or less than the panel diagonal dimension.

Claims 32-38 (canceled).

39. (currently amended) A high performance image projection apparatus, comprising:

a light source having an effective source size and generating ~~at least~~ a principal ray;

a liquid crystal display (LCD) panel for receiving ~~at least~~ the principal ray and generating an image, the LCD panel having a major surface and a panel diagonal dimension of such a size that the effective source size is two percent or less than the panel diagonal dimension; and

a Fresnel lens that receives and refracts ~~at least~~ the principal ray from the light source ~~causing at least~~ directing the principal ray to propagate through the LCD panel at an optimal ray angle that causes the image to have ~~an~~ a maximized contrast ratio, the optimal ray angle being in a range from about zero degrees to about ten degrees from normal to the major surface.

40. (previously presented) The apparatus of claim 39 in which the maximized contrast ratio is at least 1000:1.

41. (previously presented) The apparatus of claim 39 in which the effective source size ranges from about one millimeter to about seven millimeters.

42. (previously presented) The apparatus of claim 39 in which the LCD panel diagonal dimension is greater than about 50 millimeters.

43. (previously presented) The apparatus of claim 39 in which the LCD panel diagonal dimension is about 380 millimeters.

44. (previously presented) The apparatus of claim 39 further including a projection lens for projecting the light pattern on a screen at a magnification ratio ranging from about 4X to about 10X.

45. (previously presented) The apparatus of claim 44 in which the projection lens includes five or fewer optical lens elements.

46. (previously presented) The apparatus of claim 39 further including a projection screen and in which the image projection apparatus is a rear screen projector.

47. (previously presented) The apparatus of claim 39 in which the angle is in a range of from about zero degrees to about 10 degrees from normal to a major surface of the LCD panel.

48. (previously presented) The apparatus of claim 39 in which the Fresnel lens has an optical center and the principal ray enters the input Fresnel lens at a position offset from the optical center.

49. (previously presented) The apparatus of claim 39 further including an output Fresnel lens that receives the principal ray exiting the LCD panel the angle and refracts the principal ray such that it exits the output Fresnel lens substantially perpendicular to a major surface of the output Fresnel lens.

Claims 50-53 (canceled).

54. (previously presented) The apparatus of claim 39 in which the light source includes at least one arc lamp and the effective source size includes an arc gap dimension that is two percent or less than the panel diagonal dimension.

Claims 55-60 (canceled).

61. (new) A high performance image projection apparatus, comprising:

a light source including multiple arc lamps, the light source having an effective source size and emitting a principal light ray and an associated bundle of polychromatic light rays;

multiple fold mirrors in the form of a pinwheel-shaped mirror configuration, each fold mirror associated with a different one of the arc lamps so that the bundle of polychromatic light rays is substantially collimated;

a liquid crystal display (LCD) panel adapted to form a light pattern in response to incident polychromatic light rays emitted from the light source and applied signals carrying light pattern information; and

an optical lens device including a flyseye lens array light homogenizer system positioned to receive and having optical light directing properties to steer the principal light ray and associated substantially collimated bundle of polychromatic light rays for incidence as homogenized light rays on the LCD panel at substantially the same angle that contributes to formation of the light pattern at a contrast ratio of at least 1000:1.

62. (new) A high performance image projection apparatus, comprising:

a light source including multiple arc lamps, the light source having an effective source size and generating a principal ray and associated light rays;

multiple fold mirrors in the form of a pinwheel-shaped mirror configuration, each fold mirror associated with a different one of the arc lamps, and the fold mirrors coacting to direct the light rays along parallel pathways to form a substantially collimated light bundle;

a flyseye lens array light homogenizer system that receives the substantially collimated light bundle to produce homogenized light rays;

a liquid crystal display (LCD) panel for receiving the principal ray and the homogenized light rays to generate an image, the LCD panel having a major surface and a panel diagonal dimension of such a size that the effective source size is two percent or less than the panel diagonal dimension; and

a Fresnel lens that receives and refracts the principal ray from the light source directing the principal ray to propagate through the LCD panel at an optimal ray angle that causes the image to have a maximized contrast ratio, the optimal ray angle being in a range from about zero degrees to about ten degrees from normal to the major surface.